

ABSTRACT

A method is disclosed for prevention or stoppage of sulfidation or sulfuric corrosion of metal surfaces in contact with fluids including sulfiding compounds, where the method involves the addition of a compound to the fluid, where the additive has a higher affinity for metal surfaces than sulfur. The additive are group 15 of the periodic table of elements, 5
fluorine-containing compounds, or mixtures or combinations thereof and are added in small quantities generally between about 0.001 ppm and about 20 ppm based on the amount of group 15 element or fluorine in the compound used. A protected metal surface is also disclosed which is coated with a protective coating comprising a group 15 element or 10
fluorine and/or sulfur.